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ART. V.—*Memoir on the Length of the Illahee Guz, or Imperial Land Measure of Hindostan.* By COL. J. A. HODGSON  
*Bengal Native Infantry, late Surveyor-General of India.*

*Read April 4, 1840.*

IN submitting to the Royal Asiatic Society the following remarks on the very important inquiry, as to the length of that unit on which is founded the simple but perfect system of land measurement, by bigahs and their subdivisions, adopted by the most enlightened of the Moghul sovereigns of Hindustan, the Emperor Akbar, I hope I may be excused for entering into much more detail than the subject may at first seem to require; and before entering into the investigation, that I may be allowed to submit some preliminary remarks.

In 1821, the government of Bengal having resolved to institute revenue surveys of some zillahs in the north-west, or Ceded and Conquered Provinces of Hindustan, I, being then surveyor-general of India, was consulted as to the measures to be pursued in these new, important, and expensive operations. I wish it were in my power to give a clear and condensed account of the various topics of the correspondence that ensued, on the result of which might be founded extensive revenue surveys. Those provinces of Hindustan were immediately under the vigilant government of the Moghul and Pathan emperors, and from their climate and fertility, and from the character of their agricultural and warlike population, are of more value to us than any other portion of our dominion. Under this description may be classed the whole country from Patna upwards, or indeed from Monghyr on both sides of the Ganges, and Jumna, and all their tributary streams, as far as our rule extends; these are the native countries of the Sepoys of the Bengal army, men stout of body, and brave, and faithful. The Hindús of that army, by far the greater proportion, are nearly all of the agricultural classes, and so are some of the Mussulmans, and all these have an interest in every measure of the settlement of the land revenue.

It was the intention of the government, on the basis of the revenue surveys, to endeavour to make such settlements in those

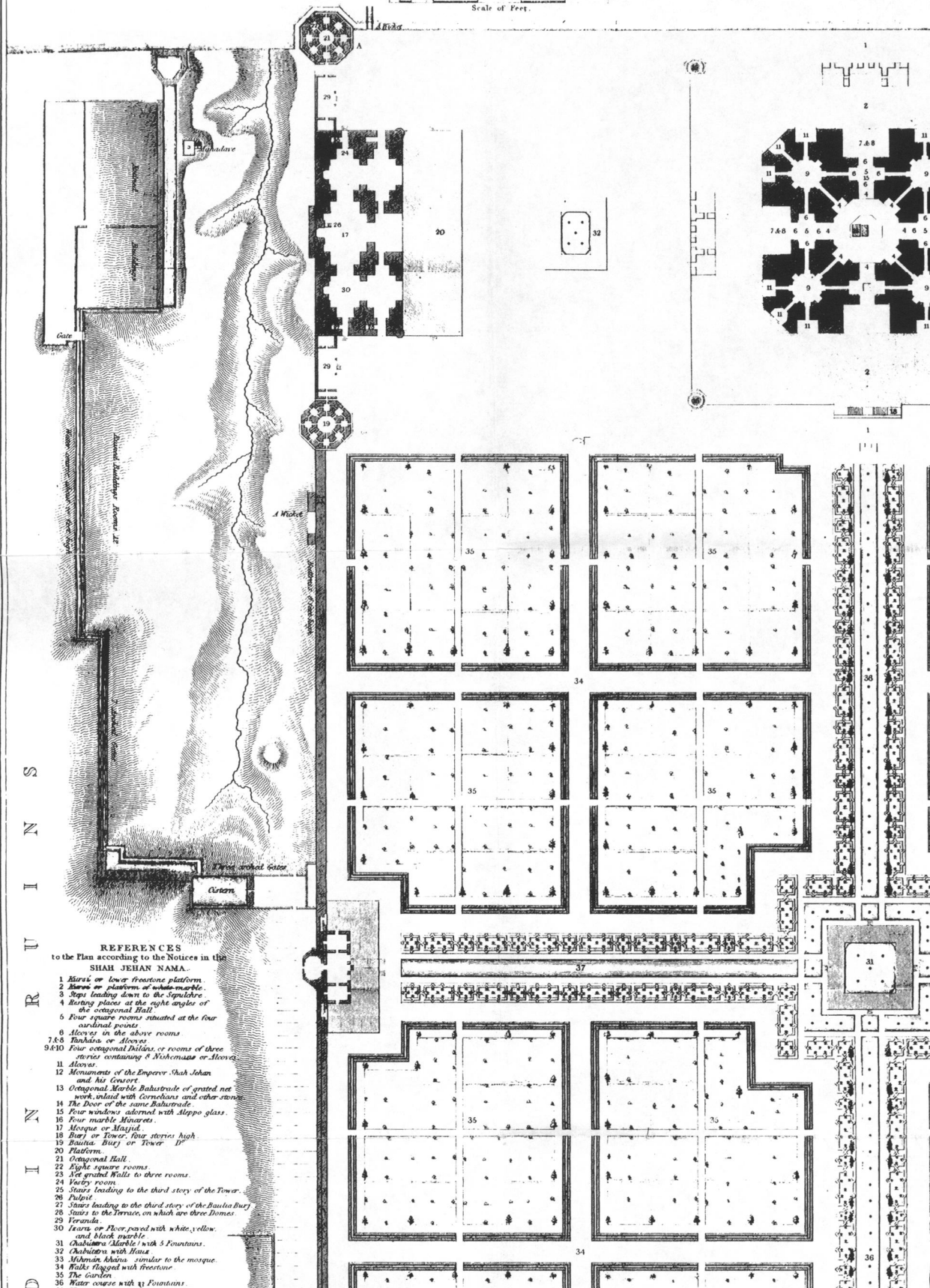
# PLAN OF THE MAUSOLEUM AND GARDEN

J U M N A

ON THE SOUTH BANK OF THE JUMNA RIVER.

Copied in the Surveyor General's Office July 1828.

Scale of Feet.



## REFERENCES to the Plan according to the Notices in the SHAH JEHAN NAMA.

- 1 *Kursi* or lower freestone platform.
- 2 *Baras* or platform of white marble.
- 3 Steps leading down to the Sepulchre.
- 4 Resting places at the right angles of the octagonal Hall.
- 5 Four square rooms situated at the four cardinal points.
- 6 *Allover* in the above rooms.
- 7-8 *Tankhna* or *Allover*.
- 9-10 Four octagonal *belahs* or rooms of three stories containing a *Nichomass* or *Allover*.
- 11 *Allover*.
- 12 Monument of the Emperor Shah Jehan and his Consort.
- 13 Octagonal Marble Balustrade of gruted net work, behind with Cornices and other stones.
- 14 The Door of the same Balustrade.
- 15 Four windows adorned with *slippo* glass.
- 16 Four marble *Mosques*.
- 17 *Mosque* or *Masjid*.
- 18 *Bar* or Tower, four stories high.
- 19 *Bar* or Tower, four stories high.
- 20 Platform.
- 21 Octagonal Hall.
- 22 Right square rooms.
- 23 *Net* gruted Walls to three rooms.
- 24 *Bar* or room.
- 25 Stairs leading to the third story of the Tower.
- 26 *Pulpit*.
- 27 Stairs leading to the third story of the *Bar* or Tower.
- 28 Stairs to the Terrace, on which are three *Belahs*.
- 29 Terrace.
- 30 *Bar* or Floor paved with white, yellow, and black marble.
- 31 *Chabutra* Marble with 5 Fountains.
- 32 *Chabutra* with *Bar*.
- 33 *Mosque*, *Khanna* similar to the mosque.
- 34 *Bar* flagged with freestone.
- 35 The Garden.
- 36 Water course with 4 Fountains.

# MAUSOLEUM AND GARDEN OF TAJ MAHAL.

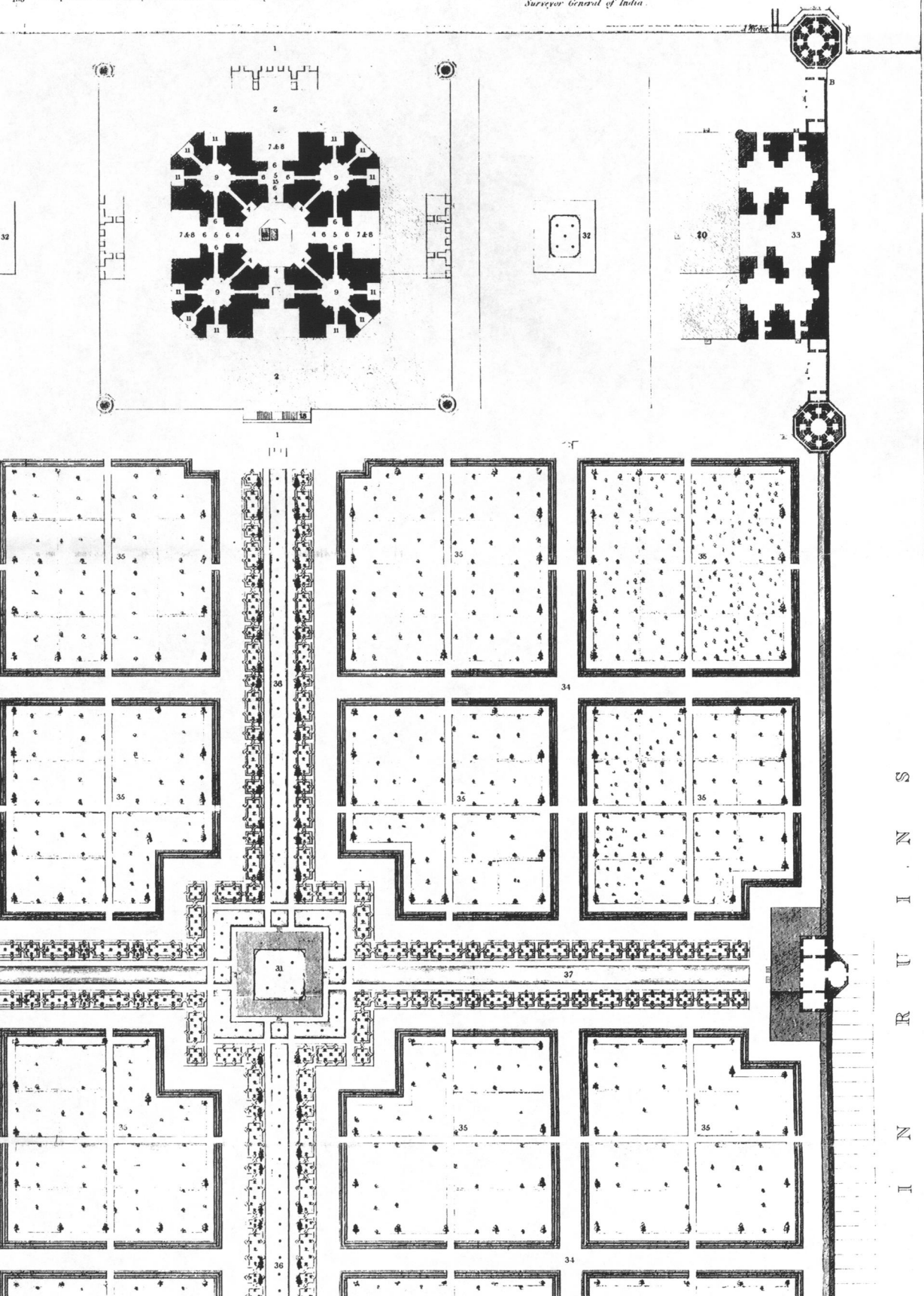
ON THE SOUTH BANK OF THE JUMNA RIVER, AGRA.

R I V E R

*J. C. Hodgson*

Surveyor General of India.

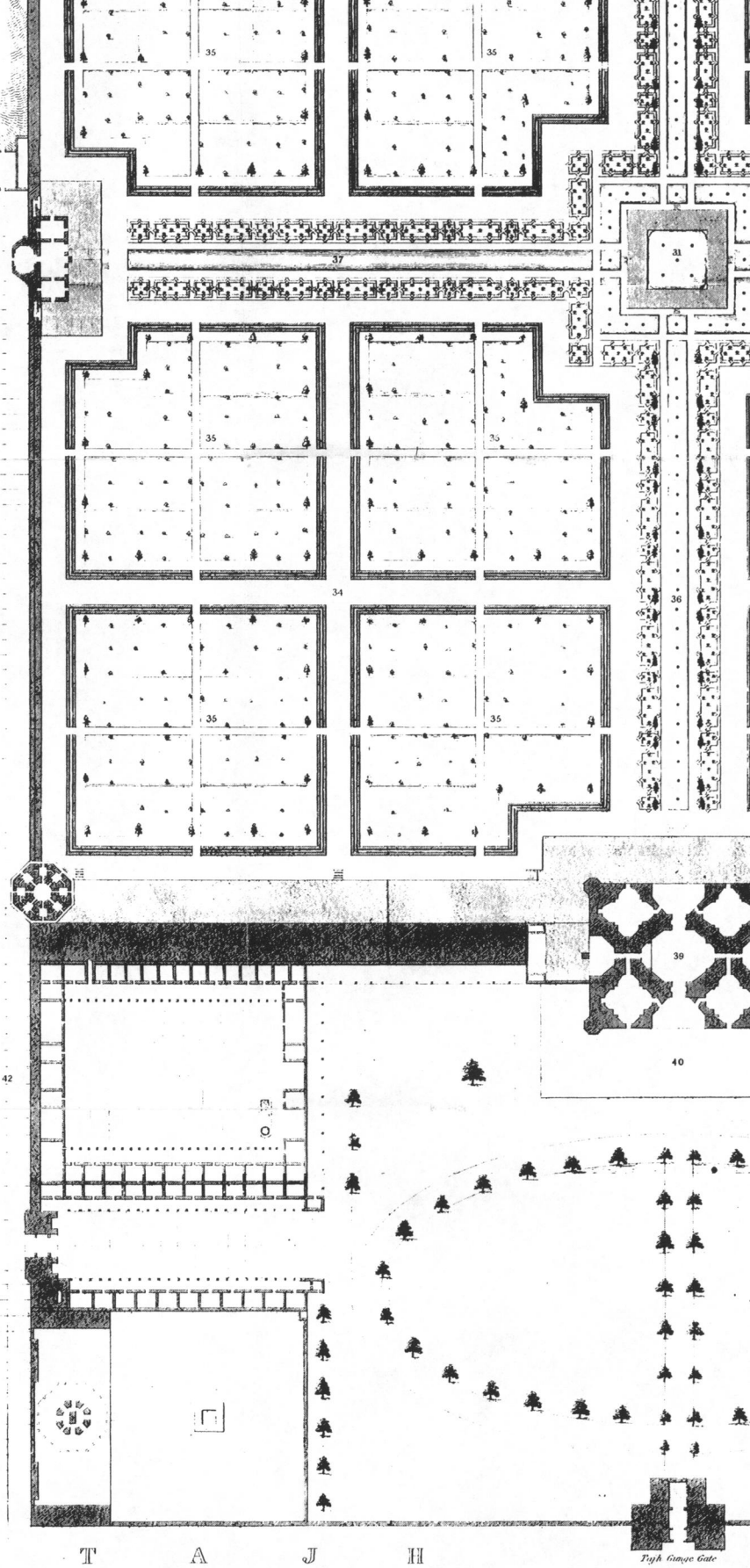
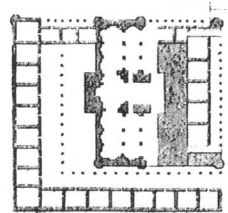
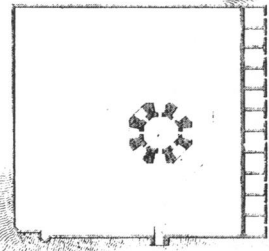
Copied in the Surveyor General's Office July 1828.



I N D I A N S

**REFERENCES**  
to the Plan according to the Notices in the  
**SHAH JEHAN NAMA.**

1. *Mirab or lower freestone platform.*
2. *Stairs or platform of white marble.*
3. *Steps leading down to the Sepulchre.*
4. *Resting places at the right angles of the octagonal Hall.*
5. *Four square rooms situated at the four cardinal points.*
6. *Allover in the above rooms.*
- 7,8. *Banahina or Allover.*
- 9,10. *Four octagonal balconies or rooms of three stories containing 8 *Wohemasse* or *Allover*.*
11. *Allover.*
12. *Monuments of the Emperor Shah Jehan and his Consort.*
13. *Octagonal Marble Balustrade of grated net work inlaid with Cornelia and other stones.*
14. *The Door of the same Balustrade.*
15. *Four windows adorned with slippo glass.*
16. *Four marble Minarets.*
17. *Mosque or Masjid.*
18. *Barj or Tower, four stories high.*
19. *Baulia Barj or Tower 17'.*
20. *Platform.*
21. *Octagonal Hall.*
22. *Eight square rooms.*
23. *Yet grated White to three rooms.*
24. *Festive room.*
25. *Stairs leading to the third story of the Tower.*
26. *Pulpit.*
27. *Stairs leading to the third story of the Baulia Barj.*
28. *Stairs to the Terrace, on which are three Houses.*
29. *Veranda.*
30. *Terrace or Floor paved with white, yellow, and black marble.*
31. *Chabutra Marble with 5 Fountains.*
32. *Chabutra with Hans.*
33. *Mehman Khana similar to the mosque.*
34. *Halls flugged with freestone.*
35. *The garden.*
36. *Water course with 11 Fountains.*
37. *Water course.*
38. *Halls and court yards.*
39. *The great Gate.*
40. *Chabutra.*
41. *Alloo Khana or Court.*
42. *Paved Freestone Roads.*
43. *Vine yard.*







provinces to which the permanent settlement had not extended, as might on the one side avoid the bad consequences of an unalterable arrangement made on uncertain grounds, and on the other, those which by allowing to the occupiers of land very short leases, gave them little security in their possession, and consequently little interest in the stability of the government of the country. To the officers of the government much trouble was given, by the frequent revisions and settlements, and opportunity for repeated and vexatious meddling with the rustic population, by the lower description of the natives attached to the revenue departments.

Much consideration was required, also, as to the mode of conducting surveys, which, if they should be found to succeed, were to be extended over very large tracts of country, and of which the expense would be great. If too loose, or defining only the boundaries of pergunnahs, or even of villages, they would be of little use to the collector, as in that case the interior measurements would be entirely left to the native measurers, and wide doors opened to fraud; on the other hand, if extreme detail were attempted, such as measuring fields, or small portions of occupancy, as it was understood had been done at Madras, it was evident that the task would be endless; and such minute inquiry, and constant intermeddlement of inferior agents, would not be endured by the high-spirited Pathans and Rajputs. It was, therefore, determined to institute zillah surveys, of each village in the zillah separately, to be embodied afterwards, by combining the maps of each village into a general map on a smaller scale,—a proceeding by which the topography, and even the geography, of the country has been improved. The boundaries of the villages were to be defined with accuracy by the European officer, as well as the more important features within them, such as the amount and nature of land under cultivation, or capable of being cultivated, water, jungles, pasture-lands, jeels, lakes, water-courses, the site of the village, and some other matters. The boundary measurements the surveyor did himself, with the best instruments; and he assisted in, or superintended, the labours of his assistants in doing the rest: of all proceedings accurate field-books were kept, and maps constructed of each village, each map being accompanied by an explanatory table of such information as could be taken without offence to the feelings of the inhabitants. These maps and tables were intended for the use of the collectors, as they would afford them the best assistance in making the settlements on the spot, when they visit the village for that purpose. Duplicate copies were to be made, to be deposited with the Record

Committee, and other useful means were contemplated ; but I will rather proceed to state, as briefly as I can, what was done, than what was intended.

I was directed to proceed to the upper provinces with the people and materials belonging to my department. I accordingly established my office at Futtehgur, and was directed to put myself in communication with the Board of Revenue of the Western Provinces, and with the collectors of revenue, and especially with Mr. Henry Newnham, the respected and experienced collector of Furrukhabad ; and we were instructed among other things to endeavour to ascertain the length of the Illahee guz, the standard measure ordained by the Moghul emperors in Hindustan, the square of 60 of which (or 3600 square guz) compose a bigah.

It is needless to dwell on the importance of knowing the length of the guz,—the fundamental scale of all land measurement : it affects every settlement of land revenue, past and to come, and every species of grant made by the Moghul emperors from the time of Akbar ; and although we may, if we please, in the spirit of innovation ordain any new standard for future operations, and reckon in yards and acres, these must be reduced to bigahs, not only in the adjustment of former grants and settlements, but in those to be made, if we wish to be understood by the occupiers of the land, or to understand them. They hold the royal scale in high veneration and respect, and though many variations have taken place during the troubled times of the dissolution of the empire, the Illahee guz is always regarded as the standard measure, and a knowledge of its real length is justly looked on as a desideratum.

Before going further, it is necessary to state what we find in the *Ayín Akbari*, or, *Institutes of the Emperor Akbar*, on the subject of land measures. We learn from that authority, that till the thirty-first year of the emperor's reign, though the guz of Akbar Shah, consisting of 46 fingers, was used as a cloth measure, yet the Sikandari guz (of about 32 fingers) was used for every other purpose ; but his Majesty taking into consideration the inconvenience of a multiplicity of measures, commanded that for all purposes there should be used only one guz, consisting of 41 (forty-one fingers), and named it the Illahee guz. He also adopted Nushirvan's measurement of 60 squares, which he made to consist of that number of Illahee guz, and ordered that the *tenab*, which was formerly made of rope, should be made of bamboos, joined together by iron hoops. It is there mentioned that the *bigah* and *jaríb* are names applied indifferently to the measure itself, as well as to



such a quantity of land. It consists of 3600 square guz, and the subdivisions of the bigah are as follow :—

20 Unswansch	make 1 Pitwansch.
20 Pitwansch	... 1 Tiswansch.
20 Tiswansch	... 1 Biswansch.
20 Biswansch	... 1 Biswah.
20 Biswah	... 1 Bigah.

All the divisions below the tiswansch are imaginary. No revenue is required from 9 biswansch, but 10 biswansch are accounted 1 biswah<sup>1</sup>.

The simplicity of these land measures contrasts favourably with the clumsy mode of reckoning of our ancestors in acres, roods, and perches, all unequal denominations; but Hindustan and China are agricultural countries, and the simple and effective adaptation of means to ends is an Oriental characteristic.

The Emperor Akbar reigned for twenty-nine years after he had made the above regulations; and though we do not seem to be well informed as to the extent to which his contemplated surveys were made under them, it may fairly be supposed that they were made to a considerable extent, and most probably in the vicinity of the capital. We know that a very great degree of order prevailed in his reign, and that the affairs of the land revenue and the surveys were under the superintendence of his able Hindu minister, Toorul Mull. It may, perhaps, be suspected that the modes and scales of measuring were not new in themselves, but that the minister might give the favourite Mussulman name of Illahee or "divine" to the measure adopted by the sovereign; for I hardly suppose the experienced Hindu would recommend a measure foreign to the people's habits. However that may be, we shall most likely some day find that the settlements of that day were made according to the imperial bigah, and that grants made by Akbar and his successors, before the empire fell into confusion, were regulated accordingly.

The length of the guz or dirra of Akbar was to be equal to the breadth of 41 fingers. (I must, however, remark that Shah Jehan increased it to 42 fingers.) Our first inquiry was, What is the breadth of one finger? and it was pursued in every mode we could think of. It may seem a trifling consideration, but it was of the first importance. On this unit all depends. The English finger is  $\frac{3}{4}$ th or  $\frac{1}{1000}$ th parts of an inch; but this was no guide, as those measures which are derived from natural substances, or parts of the human body, vary; the foot, or its estimated length, varies in every

<sup>1</sup> Ayeen Akbery, Vol. I. part iii. Illahee Guz, 4to. Edition, 1800, p. 302.

kingdom in Europe. I was not without hope that I should in time discover some building or space, the dimensions of which are recorded in the guz; but till that desideratum were obtained, I was compelled to make the best approximation I could, by ascertaining the size of natural substances for the breadth of the finger. The first was to measure the fingers of the natives themselves; accordingly, on the same day I measured at Futtehgur the breadth of the four fingers of the right hand of seventy-six men of different classes: the measures were taken by me with calibre compasses; first, the extent of the hand across the knuckle joints, and then that across the middle joints of the fingers: the last is, I believe, the proper mode. The stoutest men were the Sepoys of the 2nd battalion 4th regiment of Bengal Native Infantry (now the 23rd regiment N. I.); the next were the Sepoys of the Furrukhabad provincial battalion; and following them the various classes of in and out-of-door domestic servants, the stoutest men being the Sepoy grenadiers, and the smallest the domestic tailors. The particulars are as under:—

Description of Men.				Breadth across the knuckle joint.	Breadth across the middle joint.
				In.	In.
<i>Sepoys, 2nd Battalion, 4th Regiment, Bengal N. I.</i>					
1	Grenadier Company	.	.	3.40	3.05
2	Ditto.	.	.	3.50	3.42
3	"	.	.	3.35	3.27
4	"	.	.	3.45	3.10
5	"	.	.	3.40	3.00
6	Battalion Company	.	.	47	3.20
7	"	.	.	3.50	3.25
8	"	.	.	3.45	3.32
9	"	.	.	3.35	3.05
10	"	.	.	3.25	2.97
11	"	.	.	3.20	3.02
12	"	.	.	3.20	2.90
13	"	.	.	3.40	3.17
				13) 43.92	40.72
				Mean 3.384	3.132

*Furrukhabad Provincial Battalion.*

1	Grenadier Company	.	.	3.25	3.15
2	"	.	.	3.25	3.20
3	"	.	.	3.35	3.10
4	"	.	.	3.30	3.05
5	"	.	.	3.35	3.05
6	"	.	.	3.30	3.10
7	Light Infantry	.	.	3.50	3.10

Description of Men.					Breadth across the knuckle Joint. In.	Breadth across the middle Joint. In.
8	Light Infantry	.	.	.	3.45	3.30
9	"	.	.	.	3.95	3.15
10	"	.	.	.	3.40	3.25
11	Battalion Company	.	.	.	3.45	3.45
12	"	.	.	.	3.00	3.045
13	"	.	.	.	3.50	3.350
14	"	.	.	.	3.45	3.30
					Mean 3.312	3.185
1	Lascars (Tent-pitchers)	.	.	.	3.10	3.05
2	"	.	.	.	3.25	3.10
3	"	.	.	.	3.17	3.05
4	"	.	.	.	3.20	2.95
5	"	.	.	.	3.05	2.75
					Mean 3.152	2.98
1	Harkára (Messengers)	.	.	.	3.10	3.05
2	"	.	.	.	3.25	3.15
3	"	.	.	.	3.02	2.90
					Mean 3.12	3.03
1	Bhishtí (Water-carrier)	.	.	.	3.37	3.25
2	"	.	.	.	2.97	2.80
3	"	.	.	.	3.20	3.10
4	"	.	.	.	3.40	3.25
5	"	.	.	.	3.15	3.10
					Mean 3.33	3.08
1	Kahár (Palkí-carrier)	.	.	.	3.17	2.95
2	"	.	.	.	3.15	3.02
3	"	.	.	.	3.10	3.02
4	"	.	.	.	3.25	3.05
5	"	.	.	.	3.20	3.05
6	"	.	.	.	2.97	3.12
7	"	.	.	.	2.82	2.70
8	"	.	.	.	3.02	3.00
9	"	.	.	.	3.25	3.05
					Mean 3.19	2.99
1	Barhai (Carpenters)	.	.	.	3.05	3.02
2	"	.	.	.	3.17	3.00
3	"	.	.	.	3.05	2.90

Description of Men.					Breadth across the knuckle joint. In.	Breadth across the middle joint. In.
4	Barhai (Carpenters)	.	.	.	3.06	2.96
5	"	.	.	.	3.02	2.85
					Mean 3.07	2.94
1	Lohár (Blacksmith)	.	.	.	3.20	3.12
1	Kulí (Labourer)	.	.	.	3.17	3.12
2	"	.	.	.	3.07	3.02
3	"	.	.	.	3.45	3.22
					Mean 3.23	3.12
1	Málí (Gardener)	.	.	.	3.27	3.22
2	"	.	.	.	3.30	3.17
					Mean 3.28	3.14
	Dhobí (Washerman)	.	.	.	3.22	3.06
	Daftarí (Office-keeper)	.	.	.	2.97	2.90
	Báwarchí (Cook)	.	.	.	3.46	3.17
1	Sáís (Groom)	.	.	.	3.17	3.02
2	"	.	.	.	3.02	2.85
					Mean 3.08	2.83
	Makkhanwalah (Butterman)	.	.	.	3.20	2.97
1	Darzí (Tailor)	.	.	.	3.06	2.82
2	"	.	.	.	2.97	2.82
3	"	.	.	.	3.00	2.76
					Mean 3.00	2.79

Thus it appears that the mean breadth of the hands of seventy-six men, taken at the knuckle joints, is 3.2287 inches, and at the middle joint of the fingers, 3.078. If the former be considered the breadth of four fingers, the breadth of one finger will be 0.8053, and the guz of 41 is 33.018, the length of the side of the bigah 55.030 yards, and the square yards therein will be 3028.3. But if the lower and smaller measure across the finger joints (which I apprehend is the true mode) be taken, then the proportion will stand

thus: 0·769 inches = 1 finger; 31·549, 1 guz; 52·583, the side of the bigah; and the square yards in it, 2769·9.

It is understood that the Emperor Shah Jehan ordered the guz to be fixed at 42 fingers, but it is unlikely he would alter the length of the guz itself, as that would create confusion. Perhaps he thought 42 a more convenient number than 41; the alteration might be made by reckoning the finger less than Akbar's, making it the 42nd instead of the 41st part of the established scale, and it is remarkable that the finger will then be very nearly, if not quite, the same as the English finger,  $\frac{1}{4}$  of an inch or  $\frac{1}{16}$ , if I am right in my estimation of the length of the Illahee guz, on the grounds shown in the sequel. In the following table I have, however, set down what the guz would be at 42 fingers, supposing 1 more of the same breadth added to Akbar; not that I believe such a measure was used by Shah Jehan.

Fingers.	Breadth of Fingers.	Mode of reckoning.	Length of Guz.	Side of Bigah. Yards.	Area of Bigah. Yards.
41	0·750	English	30·750	51·25	2626·5
42	0·750	„	31·500	52·50	2756·0
41	0·769	Actual measure	31·549	52·58	2769·9
42	0·769	„	32·298	52·83	2897·7
41	0·805	„	33·018	55·03	3028·3
42	0·805	„	33·822	56·37	3177·7

In the *Shara Vikáyah*, an Arabic law book of the first authority, the *jarib* is stated to be 60 *zirá* multiplied by 60; and in the books of law the *zirá* of cloth is 7 *kubza*, and the *zirá* of land measurement is 7 *kubza*, “with the thumb erect, but according to calculators the *zirá* is 24 fingers, and each finger is 6 barleycorns, the bellies laid towards each other.”

Six barleycorns being also generally understood to be the value of a finger, many experiments were made to determine it, particularly by Mr. Halhed, collector of Moradabad, assisted by Captains Bedford and William Browne, surveyors; the experiments were numerous, and made at different days of September 1824, and with great care; the details are too long to insert here, but they are on record. I merely mention that the grains were measured in alter-

nate sets of 36 and 72; the state of the thermometer and other precautions taken. The mean result was 0·77666 inch for the finger, 31·843 inches for the guz of 41 fingers, and 32·620 for that of 42.

Experiments were also made by Mr. Halhed with mansuri pice (a small copper coin); 42 of these being held to make a guz, the mean of 6 experiments gave for the length  $32\frac{1}{2}$  inches. The pice were laid flat on a board, but they are not perfectly round. Mr. Halhed also measured the cubits of a number of the inhabitants of Rohilcund, from the end of the elbow joint to the tips of the middle finger, 2 of which cubits are reckoned by the country people to be a guz; the mean of men of different heights gave 33·7 inches. This is the mode by which the land measurers in some parts of Rohilcund adjust their jarīb ropes, and is only worth mentioning to show its inaccuracy, and the irregularity which has prevailed since the vigilant control of the imperial officers of revenue has been withdrawn.

I must be allowed to mention two or three more attempts to discover our object. In the garden of the Táj Mahal, at Agra, I measured the lengths of 800 of the lozenge shaped stone flags; with which the walks in the garden are paved; the Dárogħa told me that he believed they were each a guz in length. In the long walks they were nearly of the same length, and I found they would give a guz of about 33·58 inches; but in another part of the garden they were 4 inches shorter, so that these flags furnish no scale. I also procured from the Dárogħa a Persian MS. compiled by him, purporting to give the dimensions of several parts of the Táj in the guz measure; I measured many parts mentioned, but they gave discordant results; and in my report to the government, I observed that these operations were of no value. The manuscript was evidently the fabrication of an impostor. It was long after this that Mr. Newnham obtained a copy of the Shah Jehan Náma, by means of which *I discovered the true length of the Illahce guz*; but this is to anticipate what I must discuss in its place.

I will not now enter into more detail of the various inquiries and experiments made to determine the real length of the guz; it was my duty to make them, and very anxious I was to obtain good authority. At last I was able to do so, through Mr. Newnham's means: he got possession of a Persian manuscript copy of the Shah Jehan Náma, in which was found a very particular description of three principal buildings at Agra,—the mausoleum of the Táj Mahal, the Muti Masjid, or marble mosque, in the fort, and the Great Mosque or Jamah Masjid, near the fort. This valuable

manuscript was translated by Mr. Dyce at Futtehgur, very literally and faithfully, as I was assured by the late learned Captain Ruddell, professor in the college of Fort William, to whom I submitted it for examination, to be compared with the copy of the Shah Jehan Náma in the College Library. I insert a copious extract of it, with marginal notes. (See page 56.)

Some of the expressions in the translation may appear unidiomatic to us, but it must be remembered that many of the sentences are translations from Persian verse into English prose,—no easy task for a scholar ; but our affair is not with the elegance of the translation, but with its correctness where the particulars of the measurements are concerned.

Being, then, in possession of this valuable description of the imperial buildings at Agra, I went there in December 1825, taking with me Mr. Marcellus Burke, assistant revenue surveyor, and Messrs. James and Winston, apprentices, for the purpose of making measurements of the three buildings, and a plan of the Táj (scale 40 feet to an inch), which was effected under my superintendence, and copies of the proceedings, were forwarded to the territorial department. My object, of course, was, knowing from the Shah Jehan Náma the lengths of the different parts of the buildings therein described, in the Illahee guz, to find their length in English measure ; and from the average of the whole to attempt to determine the length of the guz in inches and decimal parts.

I must remark, however, that though we are certain that the guz mentioned in the manuscript is that used in the building, it is not so certain that the same was used in the measurement of land, though it is most probable that it was.

By reference to the measures in feet and inches, it was found that when the parts of the building measured are sufficiently long and well-defined, and open at the sides and ends, as the various platforms are, they agree pretty closely among themselves, in giving a proportion, the mean of which is 31·79 inches ; and that when differences from this to any amount take place, it is chiefly in those buildings which are closed at one side or end by a wall, and it is difficult to know whether its thickness ought to be included or not. To explain this I have added two statements ; in one of which marked A. all the measurements and results are given, and in the other marked B. only those which are most to be depended on. It cannot be expected, indeed, in a matter of this kind, that the results can agree to one or two tenths of an inch ; because the historian gives the measures in the *entire guz only*,



which, when the distance is short, will not give ground for an exact reduction, as to inches and parts of inches, if the real length of the place be more or less than *the even* or whole guz set down in the manuscript; nor should we perhaps expect in a history of this kind, any very accurate statement of the lengths and breadths of all the details of a building; still I think that on inspection of the paper B. it will appear from the small variations from it, in the *three separate edifices*, that the guz or dirra used in the buildings at Agra was 31·79.

Of the three buildings, the Tāj is the most perfect; the descriptions of its details are more precise, and some of its larger parts admit of easy and correct measurement. In its smaller parts, as well as in the shorter measures of the Muti Masjid, and Jamah Masjid, the parts to be divided often bear a small proportion to the divisor, and there is uncertainty whether the walls are to be taken in or excluded; but in some of the open terraces or platforms of the Tāj, these difficulties are avoided. The length of the guz, deduced from these select portions, is less than that taken from the more general inquiry. I take three of the longest and best defined parts of the Tāj:—

	Guz Length in deduced. Guz. Inches.	
1st. The breadth of the lower stone platform, or Kursí, including the balustrade marked in Plan I. . . . .	140	31·464
Mean breadth of the four sides of the upper marble platform, Plan II. . . . .	120	31·4568
Length of the Jilau Khána or Court, the place of waiting for retinues and attendants (See Plan IV.) . . . .	204	31·68

This last, though a long measure, could only be taken in one direction, and that not very satisfactorily, on account of uneven ground; and there is uncertainty whether to take in or exclude the boundary walls.

The mean length of the measure from these three long and well defined parts is 31·53 inches, which must needs be a very small deviation from the truth; but I will endeavour to obtain the standard perfectly correct, from that part of the Tāj which admits of being best measured, and is in itself of very perfect workmanship. This part is the marble kursí or platform, in the centre of which the mausoleum stands, as will be seen in the plan. At each of the four corners is a marble minár of exquisite and beautiful proportion, of the height of about 133 feet. The height of the walls which support the platform is 18 feet: they are cased with white marble,

as is the entire mausoleum, both inside and out. The marble platform rests on the larger one of stone; it is, I suppose, a nearer approximation to a square than was ever attained in so large a mass of masonry: it was intended to be a perfect square, each side of 120 imperial guz, and the whole 14,400 square guz; and it is remarkable that it is *exactly* 4 *bigahs*, which most probably it was intended to be: *here*, then, appears to be the measure we want, as near as we can expect to attain it. Those who have experience in such things, will not be surprised to find in the measurement of four sides of a square of masonry of 314 feet, an extreme difference of 6 inches among them, especially when it is considered, that as the building has stood about 190 years, it may, perhaps, have shrunk a little.

The first measurement made of the marble platform, being of two sides only of the square, and within the low balustrade which covers the top of the containing wall, is that set down in the statement B.; but I afterwards desired Captain Boileau to make another measurement of the four sides of the square, including the thickness of the top of the supporting wall, but without the small projecting cornice; the measurement was carefully made with Troughton's steel chain, having 5 feet links. The lengths of the sides are as follow:—

				Feet.	Inches.
North side	.	.	.	314	3·483
West side	.	.	.	314	6·358
South side	.	.	.	314	9·808
East side	.	.	.	314	7·617

The mean being 314 feet 6·81 inches, and the number of inches 3774·8 divided by 120, gives for the length of the Illahee guz,

Inches.

**31·456,**

which I believe to be the truth; and it is almost the same as the result of the next best measure, that of the lower or stone platform, which being 140 guz in width, gives 31·464, the almost insensible difference of the eight-thousandth part of an inch being of small consequence.

I now close this disquisition. I could have entered more deeply into it, but it may be thought already too long: it is, however, only by detailed inquiry that we can hope to elicit truth, in such a matter of fact. The subject may by some be deemed trifling (as it has been), but it may at some time be of great importance, and certainly in a historical point of view it is of interest.

A.—Statement of the Lengths of different parts of the Jamah Masjid, Muti Masjid, and Táj Mahal, at Agra, in English and Moghul Measures, taken for the purpose of deducing the relative proportions of each.

		Length and Breadth in Feet and Inches.	Inches.	Length and Breadth in Guz, according to the Shah Jehan Nāma.	Length of the Guz or Dirra deduced.
Fort	Inclosure before the Delhi gate of the fort . . . . .	451.11	5423	170	31.90
	N.S. square court before the mosque, inclosing the two side buildings .	266.05	3197	100	31.97
	E.W. square court, exclusive of building (S. of the mosque) .	208.04	2500	80	31.25
	Breadth of lower kursī, including the balustrade . . . . .	367.01	4405	140	31.46
	Mean of E.W. and N.S. diameters of upper marble platform .	313.07.91	3763.91	120	31.36
	The kursī of the mausoleum .	186.01.93	2233.93	70	31.96
	Diameter of the large octagon hall in which the tombs are .	58.01.70	697.70	22	31.71
	Breadth of resting-places or nishe- mans in the octagon rooms .	7.10.67	94.67	3	31.55
	Length of do. . . . .	15.11.41	191.41	5.5	34.80
	Square rooms at the four cardinal points . . . . .	15.09.41	189.41	6	31.57
Táj Mahal	Seats in the above rooms .	12.03.47	147.47	4.5	32.77
	Length of a pesh-tak or arch .	42.02.86	506.86	16	31.67
	Octagonal rooms at the corners .	26.04.49	316.49	10	31.65
	Length of pesh-taks to the octa- gonal rooms . . . . .	18.05.29	221.29	7	31.61
	Breadth of do. . . . .	10.06.25	126.25	4	31.56
	Length of mosque west of the mau- soleum . . . . .	185.02.97	2222.97	70	31.75
	Length of raised platform before the mosque . . . . .	184.11.97	2219.97	70	31.71
	Length of the hauz before the mosque . . . . .	37.07.58	451.58	14	32.25
	Breadth of do. . . . .	20.07.86	355.86	10	35.58
	Water-course . . . . .	16.03.42	195.42	6	32.57
Muti Masjid	Exterior of the marble chabútara or platform centre of the garden Reservoir in the above chabútara .	74.07.15	895.15	28	31.97
	Length of chabútara before the great gate . . . . .	43.02.47	518.47	16	32.40
	Length of chabútara before the great gate . . . . .	210.10.93	2530.93	80	31.63
	Breadth of do. . . . .	85.11.68	1031.68	34	30.34
	Length of jilau khána . . . . .	538.07.44	6463.44	204	31.68
	Breadth of do. . . . .	417.02.14	5006.14	150	33.37
	Length of mosque in side N.S. .	148.04.64	1780.64	56	31.79
	Breadth of mosque in side E.W. .	56.10.84	682.84	21	32.51
	Height of platform of mosque above the court . . . . .	2.06.75	30.75	1	30.75
	Tence khána, length E.W. .	44.19.84	538.84	17	31.69
Muti Masjid	Do. do. breadth N.S. .	9.03.25	111.25	3.5	31.78
	Interior of hauz or marble reservoir for water . . . . .	26.08.27	320.27	10	32.63

32) 1024.64

Mean of the whole. Inches, 32.01

B.—*Statement of the Lengths of different parts of the Jamah Masjid, Muti Masjid, and Tāj Mahal, at Agra, in English and Moghul Measures, taken for the purpose of deducing the relative proportions of each.*

		Length and Breadth in Feet and Inches.	Inches.	In Guz.	Length of the Guz or Dirra deduced.
Jamah Masjid. Fort.	{ Inclosure before the Delhi gate of the fort . . . . .	451.11	5423	170	31.90
	{ N.S. square court before the mosque, inclosing the two side buildings . .	266.05	3197	100	31.97
	{ E.W. square court, exclusive of building (S. of the mosque) . .	208.04	2500	80	31.25
	{ Breadth of lower kursf, including the balustrade . . . . .	367.01	4405	140	31.46
	{ Mean of E.W. and N.S. diameters of upper marble platform . . .	313.07.91	3763.91	120	31.36
	{ The kursf of the mausoleum . . .	186.01.93	2233.93	70	31.91
	{ Diameter of the large octagon hall in which the tombs are . . . .	58.01.79	697.79	22	31.71
	{ Breadth of resting-places or nish- mans in the octagon rooms . . .	7.10.67	94.67	3	31.55
	{ Square rooms at the four cardinal points . . . . .	15.09.41	189.41	6	31.57
	{ Seats in the above rooms . . . .	12.03.47	147.47	4.5	32.77
	{ Length of a pesh-tak or arch . . .	42.02.86	506.86	16	31.67
	{ Octagonal rooms at the corners . .	26.04.49	316.49	10	31.65
	{ Length of pesh-taks to the octa- gonal rooms . . . . .	18.05.29	221.29	7	31.61
	{ Breadth of do. " " . . . .	10.06.25	126.25	4	31.56
Tāj Mahal.	{ Length of mosque west of the mau- soleum . . . . .	185.02.97	2222.97	70	31.75
	{ Length of raised platform before the mosque . . . . .	184.11.97	2219.97	70	31.71
	{ Length of the hauz before the mosque . . . . .	37.07.58	451.58	14	32.25
	{ Exterior of the marble chabútara or platform centre of the garden . .	74.07.15	895.15	28	31.97
	{ Reservoir in the above chabútara . .	43.02.47	518.47	16	32.40
	{ Length of chabútara before the great gate . . . . .	210.10.93	2530.93	80	31.63
	{ Breadth of do. " " . . . .	85.11.68	1031.68	34	30.34
	{ Length of jilau khána . . . . .	538.07.44	6463.44	204	31.68
	{ Length of mosque in side N.S. . .	148.04.64	1780.64	56	31.79
	{ Breadth of mosque in side E.W. . .	56.10.84	682.84	21	32.51
	{ Height of platform of mosque above the court . . . . .	2.06.75	30.75	1	30.75
	{ Fence khána, length E.W. . . .	44.10.84	538.84	17	31.69
	{ Do. do. breadth N.S. . . . .	9.03.25	111.25	3.5	31.78
	{ Interior of hauz or marble reser- voir of water . . . . .	26.08.27	320.27	10	32.03
Muti Masjid.					
					28) 890.22
Mean of the whole. Inches,					31.79

*C.—Description of the Tāj and Masjids referred to in page 51.*

THE plan of the mausoleum of the Tāj with the gardens, grounds, and various buildings appertaining to it, will be of use in considering the subject of the foregoing paper, and will give a perfect idea of the proportions of the *ground plot* of these remarkable buildings. It did not fall within the compass of my project to make sections of the elevation of their different parts,—such, as well as drawings, would be necessary to aid description; but plans and models and descriptions alike fail in conveying any adequate idea of their exquisite beauty. Many descriptions of the mausoleum itself have indeed been attempted, but they relate only to that perfect structure which contains the remains of the emperor Shah Jehan and his consort; the subordinate parts are in their degree worthy of it; the great gateway of the garden alone is a noble structure, and the mosque and its counterparts, the *imshān-khāna*, as well as the six octagonal pavilions of four stories high, and other buildings, and the various platforms, the reservoirs for water, the fountains, and canals of the garden, bounded by lofty trees, compose a most harmonious whole. Models of the mausoleum and its platform, and the four *minārs*, have been exhibited in England; one of these was of considerable dimensions, and well executed, but it could not give even a faint idea of the imposing and majestic beauty of the principal building. It is known that it is entirely cased with white marble, within and without, and that it is highly ornamented with inlaid work throughout. From the descriptions which have been given of its high finish, from the temptation, for want of other means of similitude, to liken it to a fairy fabric built of pearl or of moonlight, and from its having been not inaptly said that it should be kept under a glass case, those who intend to visit the Tāj are apt to form an idea, that though beautiful it is small; but the contrary is the truth; it is of considerable dimensions and altitude, the entire height of the whole fabric, including the foundations and platforms, being about 283 feet above the surface of the ground, and it is visible at considerable distances in the country around. It must be remembered that this is not a temple but a tomb, the tomb of a mighty monarch, built for the remains of his consort and his own, (it contains both,) and that two centuries have not elapsed since its completion. It is, I suppose, one of the most perfect and beautiful buildings in the world. When seen through the long vista of stately trees which border the canal of fountains, and by which it is approached from the great gate, the mind is impressed with a sensation of solemn admiration; not less impressive ought to be the reflection, on the instability of dominion in Hindustan; the power of the mighty monarchs who erected so many magnificent buildings in their dominions, and which are almost as perfect as if finished yesterday, has passed away. Only 130 years have elapsed since the death of the son of Shah Jehan, the Emperor Aurungzebe, “whose dominion,” to use the words of Rennell, “extended from the 10th to the 36th degree of latitude, and over a space nearly as much in longitude, and whose revenue exceeded thirty-two millions of pounds sterling, in a country where the products of the earth are four times as cheap as in England.”

*Extracts from the Shahjehan Náma, by Muhammad Salah Kumbo.*

"As this great city, to wit, Akbarabad, which in regard to population and buildings not having its equal upon the face of the earth, has bazars and streets of very small breadths, the Jilau Khána (meaning the king's court-yard) is also inadequate and narrow in its extent: Wherefore, by the great concourse of people, and the troops of the subjects (officers) at the times of levee by passing and repassing, especially on the id days and other rejoicing occasions, much inconvenience and injury was experienced by them. Further, a Jamah Masjid, corresponding with the grandeur and amplitudo of the city, and with the number of people assembling, was not built; it, therefore, occurred to his Majesty's mind that this narrowness and deficiency should be removed and supplied. Conformably to this advantageous determination, the emperor passed his order, that the geometricians, with astrolabe capacity, will mark out before the gate of the fort, an octagonal area, similar to that which lies in Bagdad, making it 170 bádsháhí dirra in diameter, so that in each angle of the several angles five cells may be obtained, the total number of which apartments may be fifty or sixty, besides courts and halls to be erected. Accordingly skilful builders in the designed place first planned the Chauk\* as described above, and without delay traced it in the hour permitted by the astrologers. After the grand Mosque, the foundation of which was before this period laid on the banks of the River Jumna, as formerly related, had been raised above ground, owing to the urgency of carrying on the works of the illumined mausoleum, the erection of it was postponed; moreover, the site of that Masjid being considered to be somewhat far from the central part of the population of the city, it was suggested to his Majesty, to have a Jamah Masjid built on one side of the Chauk mentioned above. On this occasion Nawab of holy title, a sháh-zádí of angelick form and Haura genius, mistress of the world of creation, Begum Sahib, (meaning the queen,) who was constant in the exercise of charitable and pious acts, and whose intention being solely bent on founding charitable and holy places, applied to his Majesty for permission to found this place of worship; His Majesty, in consequence, charged the mutasaddís of the sirkár of the princess, who is the elder and most respectable lady in the kingdom, with the performance of the work. And these officers of pious demeanour, with great integrity, occupied themselves very carefully in this business; first, as a part of the land of that place of worship did not appertain to the khálsah (or state), they by conciliation prevailed over the málikés thereof, to give up their respective claims to the same willingly and cheerfully, by increasing in some instances ten, and in others fifteen, the value which lands bore at that time, and such persons as declined to receive the prices of their portions, got in exchange better and more delightful houses given to them, by which circumstance they were more happy and pleased.

"Afterwards, at a propitious hour, the foundation of the said building

\* This is the inclosure called the Tripoli, between the Delhi gate of the Fort and the Masjid.

which originated in piety and benevolence, was thus laid, in length 130 dirra\* bādshahī, and 100 ditto in breadth. The area of the part 80 dirra, containing nine large domes to the west, and fifty halls found in the angles. It is hoped that while the world continues and lasts, the merit and reward for erecting this charitable edifice will alight on and revert to that princess, foundress thereof.

"As the removals of the straitness of the streets and bazars would involve the demolition of the houses of many thousand people, which would be a very distressing procedure, his Majesty having the good of his subjects at heart, did not put his intention in execution on this point."

### *Remarks on the Mausoleum at Tāj Ganj.*

"His Majesty, in the fifth year of his reign, thought upon causing to be erected the Rauzah, which is a building like heaven, the firmness and elevated situation of the Sabashadad (meaning the seven paradises) bear not the smallest comparison to its durability, and which now appears to be finished; and had it planned near the Jumna, which river runs to the north of it. Its foundation was laid from whence water springs, and architects built it of stone and mortar, making it strong and level with the bank; upon this plane the kursī (platform) of the mausoleum, (meaning the flat upon which the buildings were traced,) was erected, 374 guz long, 140 ditto broad †, and 16 guz high, and overlaid with red stones, embellished with Mosaic works. Such is the splendour of the buildings resulting from their high elevation, elegance, ornaments, forms, and amplitude of area, as not to be met with at any other place in the world ‡.

"Over the above-mentioned kursī, that is, in the middle of it, another was raised and covered with white marble, inlaid, 120 guz square§, and 7 dirra high. On this second kursī of the mausoleum (which reaches the heavens) a third was constructed, 70 dirra in diameter and 1 guz high, in shape a Dagdad octagon.

"The place of burial, in the centre of which the illuminated tombstands, is finished throughout with white marble; from the floor to the zehor cornice it is octangular, and 22 dirra in diameter; from the izava to the inner point of the cupola in perpendicular height is 32 guz high; above this guava-shaped dome, on the basis of which the wisest geometricians will fail to form an idea, a pinnacle in height 15 guz, made of pure gold, which glitters like the sun, has been fixed on its very summit. In the aggregate, from the surface of the earth to the top of the pinnacle, the height is 107 guz, and in the eight angles are eight resting places of two stories, each 5½ guz long and 3 broad.

\* This length could not be well determined, there being octagonal buildings at the corners.

† This could not be satisfactorily measured, on account of circular buildings at the ends.

‡ By observations made in November and December, 1825, I find the latitude of the centre of the tomb to be 27° 10' 21".—J. A. H.

§ This, the mean of the measurements of the four sides, (corrected,) affords the most satisfactory result; the marble platform is as nearly a square as it is possible for art to make so large a mass of masonry.



On the four cardinal points there are four square rooms of two floors, each is 6 dirra square, consisting of 4 seats, each of which  $4\frac{1}{2}$  dirra long, a tanhása before every square room, and a pesh-tak, 16 dirra long, and 25 in height. In the four corners there are four octagonal rooms of three stories, the diameter of each 10 dirra, containing 8 nishemans, the uppermost story of these places being octagonal dáláns or halls, with arched roofs; on the three sides of these houses are three pesh-taks on the outside, each 7 dirra long, 4 ditto broad, and 10 ditto high. In the centre of the dome is the bed chamber\* (meaning the grave) of her Majesty, over the top of which is a chabútara of white marble, upon which stands the outward form of a tomb; round this is an octagonal stone palisade of grated and inlaid work, the door to its entrance made of agate, worked as Grecian, and its joints are clamped with iron, which is covered with gold, 10,000 rupees being expended in this work. Within this exalted edifice, stars and lanterns of gold enamelled over are hung, and its four tujs are adorned with Aleppo looking glasses, leaving only one road for going in and coming out. At the four corners of this building, upon the marble kursí, which from the surface of the earth is 20 guz high, are built four minarets with staircases of the same stone, in diameter 7 and in height 52. Conceivo the prayer from an immaculate breast, accepted by the Deity, to be ascending to heaven. Their solid foundation and high stature like exalted fortune, and the counsel of the wise may be said to do justice to the inclination of their ascension. In all the mausoleum, both inside and out, skilful engravers have employed fine art, and a variety of coloured stones and valuable gems, the delineation of whose property and praise cannot be comprehended in the sea of language: to trace the least degree of its goodness by description and figures is impossible; especially as the Chabútara of the illumined tomb is finished with such exquisite inlaid work, that the karnama of Urghunj, and the picture galleries of China and Europe, are in comparison to its beauty like painting upon water, having neither show nor being. The epitaphs both inside and out, which are composed of sections and sentences from the Koran, and which the workmen, with the diligence and skill of a Farhád, have most artfully finished with inlaid work, so as to give it a preference over the beauty of the starry heaven of the ruby lips of Bután (meaning mistresses).

“To the westward of the Rauzah stands a Masjid on the brink of a cistern, (70 guz long, and 30 broad,) consisting of three domes, which are lined inside with red stones and outside with marble. The border of the izara of the mosque is done with inlaid work both inside and outside, with white, yellow, and black marbles; the pavement, which is of red stone, has delineated thereon, with mosaic work, the arch under which the faithful pray. In the front of this place is a Chabútara 70 dirra long and 8 wide, also a Hauz (reservoir for ablution before prayers) built, 14 by 10; its sahn, enlivener of the soul, appears like the forehead of the righteous, filled with the light of blissfulness, the heart-elating prospect of which may be compared to the morning of prosperity opening the gates of liberality on the face of hearts (meaning man). To the eastward of the mausoleum, opposite to the Másjid, a mihmán

\* This is a vault containing the graves of the Emperor and Empress.

khána\* has been constructed, in all respects similar to the Mosque, except that the peculiarity of the arch, and the darsan of the place of prayer, is left out. And in the four corners are four octangular burjs of three stories, with arched roofs, tipped inside with red stone, and outside with white marble, and in the side of each burj is a hall, 12 by 6, at the two ends of which are two rooms.

*'Description of the Garden.*

"At the bottom of the red stone kursí, (platform or terrace,) is a garden like Paradise, which you would say has a pleasing prospect, like the mole on a Chinese, comprehending all the delights of the world; every one of its beds, formed on the rules of liberality, was as the bed of the garden of Ruzwán, expanding and comforting the heart, and attracting. The green trees have imbibed the nectar of immortality, and their respective statures, with regard to their genus, carried the palm on every consideration from *Tábbá*, which is said to be a plant in Paradise. In the four beds situated in the centre of the orchard, each of which is 40 dirra broad, there is a water-course 6 guz broad, in which jets d'eau besprinkling light are by the waters of the Jumna playing and sprinkling pearls; in the centre of the said garden is a chabútara, in length and breadth 28 guz, round which the above water-course runs. In the centre of the chabútara is a reservoir, filled up with water from the Konsur, which is said to flow in Paradise with nectar, in length and breadth 16 guz †, circled with fountains playing. Conceive that lamps in the heart of the day, illuminating the world, are lit. In short the peculiarities of this paradise-like orchard, the particularities of its bed which are entirely built of red stones, the Shah Canal characteristic of the milky way, and the reservoir constructed on a new plan from materials of the mineral kingdom, is done with limpid crystal with such a degree of skill, that it is impossible to excel its workmanship. To bestow the least praise on the whole, words are wanting. To the southward of the garden halls and courts are built, and in the angles of the east and west two grand burjs, or towers, are erected with pleasing halls, and the gate of this splendid edifice is extremely high and of good shape like the gate of Paradise; it is finished superbly. In great height and with painting of a variety of figures and pictures, embellished from the bottom to the top, within and without, are seven chaukhandas, which are crowned with white marble; in its four corners are four minarets finished elegantly and handsomely. Its compound walls are built entirely of red stone. In the front of the gate is a chabútara 80 by 34, and the jilan-khána (or great court-yard where the retinues wait) is 204 dirra by 150 ‡, with a bazar all around the area, the houses finished with red stone, and the shops with bricks and mortar. The length of the east and west of this place is 90 guz, and that of the north and south 30 guz §.

\* For the accommodation of visitors who pay their devotions at the opposite mosque.

† This measure is faulty, from its shortness, and the doubt whether the surface of water or containing walls are meant.

‡ These places are without the great gate; the last result must be rejected; on account of surrounding bazars, it could not be well measured, and I suspect a mistake in the length.

§ These measurements are very ill-defined and uncertain.

"In the side of this market-place pleasant serais were constructed, each in length and breadth 160 guz, containing an inclosure of 160 cells. Further on another chalk\* 150 long by 100 broad occurs, in the midst of which a bazar, and two other serais near it are built, where a great variety of piece goods and different sorts of property from foreign countries are bought and sold; besides these buildings, a great number of merchants have erected numerous houses and habitations of pakka work, so much so that the place has become a large city, by name Moomtazabad. All these royal buildings had taken twelve years to finish under the superintendence of Mukrumut Khan and Mir Abdul Kerim, and their cost amounted to *fifty lacs of rupees*. Thirty villages from those annexed to Akbarabad yielding a juma of 4,000,000 dāms, the product of which sum is one lac of rupees, with the taxes of the shops and serais, amounting to two more lacs of rupees, were, as a pious endowment, assigned for the use of this splendid mausoleum, with intent that the expenditure for making occasional repairs to that sepulchre may be defrayed from this fund, and the balance disbursed in paying the pensioners who receive stipends either annually or monthly, and for providing pottage and bread to the khidmatgārs and devotees of that noble building, as well as to such other necessitous and indigent people as are wont to obtain relief. Any balance which may remain in the fund, after defraying the above-mentioned disbursements, the same is to be at the disposal of the monarch of the times, as the superintendency of the mausoleum rests with him. The Sherif of Mekka deputed Sheikh Abdul Samad Annudi as ambassador with the key of that holy place, as an omen of conquering the seven climes or countries, who arrived on the 8th of Zilhajjah 1052, (17th February, 1643,) and paid his respects to the emperor, when he was honoured with a khilat of 4,000 rupees."

*Treats on the Muti Masjid, the Marble Mosque, in the Fort of Agra.*

"For the sole purpose of seeing the Jamah Masjid, which, by order of his Majesty, was erected in the fort of that city, (meaning Akbarabad,) entirely of white marble, at an expense of three lacs of rupees, and which was completed at the end of the twenty-sixth year of his reign, corresponding with A.H. 1063, (1653) in the space of seven years, the emperor, on Friday the 29th of Zilhajjah, (11th November, 1653,) after the Ghari had struck four Gharis upon do pahar, (about two o'clock, P.M.) in a propitious hour got on board of a boat, and proceeded thither, where he arrived on the 16th of Muharram, 1064, (27th November, 1653,) and making the capital a fountain of blessings, and the centre of perpetual happiness, visited the Masjid at the close of the day. This good building, which is the most profitable running on charity performed, is, according to holy writ and commandments, the cause of strengthening faith, and of founding places and houses in Paradise. It consists of three domes, each of which is 9 dirra in diameter, and contains 21 kashwas in 3 lines; there are 6 burjs or towers, each of which has an octangular dome, in diameter

\* This Chalk is not within the principal inclosure. Its dimensions could not be measured, as it is obstructed by rubbish and huts.

4 dirra, and built on pillars. Read a sentence of the Koran to this purport :—  
*'Nobody builds a Masjid to God but he who has faith in God and the resurrection.'*  
 On this sentence is founded the preceding observation.

"The length of this Masjid is 56 dirra, the breadth 21, and the height of its kursī from the marble floor or level is 1 dirra. To the north and south of it are two tence khānas, each 17 long by  $3\frac{1}{2}$  broad, over the effulgent frontispiece of this good mosque, which, like the second, or true dawn, opening the gates of munificence upon the surface of the earth, and which, ornamenting like the new moon of the 'Id Festival, exhibits in perfect beauty and handsomeness, an inscription of inlaid work, done with black marble, which you may suppose that with musky ink, the pen of the great Artist (meaning God) wrote on the margin of the sun, while it was in the sign of Virgo, the sentence of the Taluk &c. (meaning the beginning of goodness). Its refulgence, as appears on the foreheads of the clean and pure, being envied by the sun and moon, the eyes of these luminaries became diseased with sabal and nākhunah (two disorders by which the human eyes are liable to be affected). The forehead of the righteous, who on the threshold of this rest of angels, obtains serenity like the open forehead of the sun's face, will on no account see in his dream the wrinkle proceeding from sorrow and grief. The hands of supplication on the part of the necessitous, upon being extended towards heaven in this propitious edifice, the gratification of his object, which depends upon prayer, is granted before he moves his lips and tongue. Without doubt the bowls of their silver-like domes, charged with generosity from the intense-ness of their resplendence, like the fountain of the sun, have increased the glory of the nine heavens, which are incrustated with gold. The clearness of the doors and walls of the Mosque, which appear like the water of a transparent looking-glass, on being surveyed fix the pupils of the eyes in amazement; its strong pillars can be likened to those of the nine domes of the heavens, which are ornamented with pearls, (meaning stars,) and in resemblance of those of the firm religion are fixed permanently. They may be further compared from head to foot to the beauties, and said to be like the pillars, of the Muhammadan faith, firm and immutably fixed. In the middle of its sahn, which, from the level of the earth, is raised 11 guz, forming a square of 60 guz, paved with white marble, is built a hauz on a new plan, 10 dirra by  $10\frac{1}{2}$ , with the same stone,  $2\frac{1}{2}$  guz high, like the disk of the sun, waving its resplendence in the firmament. In the centre of the hauz is a fountain of the same stone, playing, as if the accepted prayer of the unspotted was ascending towards heaven. Certainly this kaba (meaning the Masjid) is of eternal blessings. On the estimation of its sanctity and delight, conferred by God, it may be considered as the eye of the face of the earth, seeing all the world, and this hauz satisfying the heart from its elegance forms the eyesight of that place of association of eternal happiness (meaning the Masjid). The pupils of the eyes of saints, seeing chastely from its prospect, increasing gladness, derived the recipe of delighting the soul, and the Masjid's paradise-like ground, by having been paved with marble, took herself to the firmament of fixed stars, and thereby laid open spiritual grace.

"In the three angles of the Masjid's area are bright halls opening the heart

made of marble, under which is a two-story apartment, faced outside with red stone. The kurst of the halls from the sahn of the Masjid is  $2\frac{1}{2}$  quarters of a guz high. To the north and south are two gates of high foundation, the centre of each is 4 by 4 with an arched roof, and the dome of white marble, over which on three or four rafters of marble are fixed turrets incrustured with gold. The eastern gate, the inside of which up to the dome is done with marble, is 6 guz by 6, and has dahms of two stories satisfying the heart, over which are bunches of flowers and golden pinnacles. Before each of the three gates are two elegant and pleasing halls. It is hoped that the reward for this acceptable edifice, which is the medium through which the supplicant prays to the bestower of gifts, for the gratification of his desires and wishes, will, in the times of his Majesty, alight on him.

"As the buildings of the hunting seat at Seemoungur, notwithstanding their ill shape, were allowed to get old, Agah Khan, by order of the emperor at the Mauza of Imadpore, on the banks of the river, which is half a kroh or kos on this side of Seemoungur, built a snug abridged edifice, at an expense of 80,000 rupees, and reported its completion to his Majesty. For sport, the king repaired to that place, and experienced great delight and pleasure, remaining there one night. On the 29th of Muharram, at two<sup>1</sup> pahar and two and a half gharis of the day, (10th December, 1653, about one o'clock, v.m.,) for the purpose of resting, the emperor set out on his return to the capital of Shahjehanabad, and in the neighbourhood of Agra, the victorious troops and the followers of the royal camp, pitched their tents. On the 3rd his Majesty resumed his journey, and on the 13th halted at Kherazabad, which is three kos distant (from Dehli). On the 14th the royal edifices of the capital were honoured by his Majesty; first he visited the private and public buildings, the Ghasál Khána, and the Jarokah, and afterwards the Daulat Khána, bordering on liberality, which upon all considerations is magnificent in munificence, in increasing delight from its prospects and extended area, in diffusion of good to the soul, and tranquillity in brightening the sight, and in furnishing a place to view from, being the terrestrial paradise, nay the ornament of the sublime paradise: with these particular excellencies, the place was made the residence of the emperor."

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